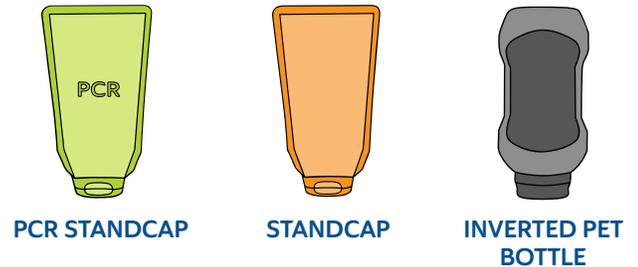


# STREAMLINED LIFE CYCLE ASSESSMENT\* MAYONNAISE PACKAGING CASE STUDY

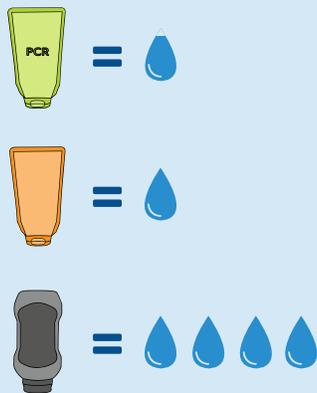
## MAYONNAISE PACKAGE COMPARISON

Mayonnaise is a popular condiment sold in a variety of packaging formats. Two packaging formats for the sandwich spread were evaluated with a cradle-to-grave boundary for this Life Cycle Assessment study: an inverted PET bottle and the premade STANDCAP Pouch, an eco-friendly inverted flexible pouch.



### Water Consumption

Due to the minimal amount of water needed for its laminating and extrusion process, the premade STANDCAP Pouch with PCR uses less water **(-79.9%)** than the rigid PET bottle does for its cooling molds.



### Greenhouse Gas Emissions

Due to its lighter weight and less energy intensive manufacturing process, the premade STANDCAP Pouch shows a large reduction in GHG emissions **(-62.4%)** compared to the stretch blow molding and heating used to create a rigid container. The use of PCR results in an additional emission reduction **(-64.4%)**.



### Fossil Fuel Consumption

Because of its lighter weight, the premade STANDCAP Pouch uses less than half the fossil fuel **(-58%)** as the rigid PET mayonnaise container. The use of PCR results in an additional overall fossil fuel reduction **(-62.1%)** when compared to the rigid bottle.



# END OF USE SUMMARY

## SOURCE REDUCTION BENEFITS

According to the U.S. EPA Waste Hierarchy, the most preferred method for waste management is source reduction and reuse.

A major benefit of flexible packaging is the high product-to-package ratio that it offers.

## RECOVERY BENEFITS

**PCR STANDCAP**



**1x**  
amount of material ending up as municipal solid waste

**STANDCAP**



**1x**  
amount of material ending up as municipal solid waste

**INVERTED PET BOTTLE**



**1.9x**  
amount of material ending up as municipal solid waste

High product-to-package ratio:



Low product-to-package ratio:



While many multi-material flexible packages are not yet recovered and recycled in any significant amount, they still result in a substantial reduction in the amount of material sent to landfill versus other types of packaging.

The inverted PET container results in nearly **2X** as much landfilled waste versus the premade STANDCAP Pouch and PCR version **(-47.4%)**.

## IMPLICATIONS

The premade STANDCAP Pouch has a number of sustainability benefits when compared to a rigid inverted container or PET jar for mayonnaise. These include lower fossil fuel and water use, GHG emissions, better efficiency of materials and considerably less material discarded at end-of-life.

FORMAT	FOSSIL FUEL CONSUMPTION (MJ-EQUIV)	GHG EMISSIONS (KG-CO <sup>2</sup> EQUIV)	WATER CONSUMPTION (L)	PRODUCT-TO-PACKAGE RATIO (%)	PKG LANDFILLED (G)/1,000 KG MAYO
PCR STANDCAP POUCH 	1.39 <b>(-62.1%)</b>	.06793 <b>(-64.4%)</b>	19.19 <b>(-79.9%)</b>	19:1:1 <b>(95.0% : 5.0%)</b>	52,381 <b>(-47.4%)</b>
STANDARD STANDCAP POUCH 	1.54 <b>(-57.8%)</b>	.07191 <b>(-62.4%)</b>	22.12 <b>(-76.8%)</b>	19:1:1 <b>(95.0% : 5.0%)</b>	52,381 <b>(-47.4%)</b>
INVERTED PET BOTTLE 	3.66	.1911	95.29	8:3:1 <b>(89.2% : 10.8%)</b>	99,515



For more information and methodologies of assessments, please visit [www.flexpack.org](http://www.flexpack.org) or [www.glenroy.com](http://www.glenroy.com) to download Glenroy's "A Streamlined Life Cycle Assessment Comparison for the Glenroy Premade STANDCAP Pouch in the Sauces and Personal Care Market versus Rigid Packaging Options" report and refer to pages 7-10.